

27. (Amended) A method according to Claim 26, wherein the toner developing container separated in said container separating step or the another toner developing container and the cleaning container are rotated toward each other about one of the pins at a portion across from the electrophotographic photosensitive drum, and a tape is stuck on the toner developing container separated in said container separating step or the another toner developing container and the cleaning container to maintain the disengagement or the larger back clearance.

Remarks

Summary

The claims have been amended to overcome the formal objection. In addition, the basis for the provisional substantive rejection no longer exists because the claims of the co-pending case that were cited against the claims of this case have been canceled. Therefore, this case is now in allowable form.

Status of the claims

Claims 1-27 are pending. Claims 1-8, 10-20, and 22-27 have been amended to improve their form and to eliminate the phrase "a or said" to overcome a formal objection. Claims 1, 5, 14, and 18 are independent.

Requested action

Applicants respectfully request the Examiner to reconsider and withdraw the outstanding objection and rejection in view of the foregoing amendments and the following remarks.

Formal objection

The Examiner objects to the phrase “a or said” in Claims 1-27. In response, while not conceding the propriety of the objection, the claims have been amended to eliminate this phrase, thereby obviating the objection.

Substantive rejection

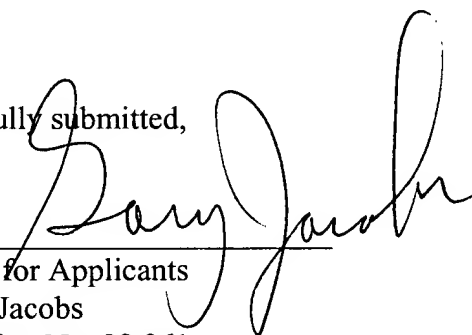
Claims 1 and 5 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over Claims 1 and 2 of co-pending Application No. 09/696,309.

But the June 13, 2002 Amendment in co-pending Application No. 09/696,309 canceled Claims 1 and 2, as shown in the attached copy thereof, a Notice of Allowance issued on July 3, 2002 without canceled Claims 1 and 2, and the Issue Fee was paid on September 30, 2002. Thus, the basis for rejecting Claims 1 and 5 no longer exists. For this reason, Applicants respectfully request that this provisional rejection be withdrawn.

In view of the above amendments and remarks, the claims are now in allowable form. Therefore, early passage to issue is respectfully solicited.

Applicants' undersigned attorney may be reached in our Washington, D.C. office by telephone at (202) 530-1010. All correspondence should continue to be directed to our address given below.

Respectfully submitted,



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MARKED-UP AMENDED CLAIMS

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1. (Amended) A remanufacturing method of [remanufacturing] remanufacturing a process cartridge comprising:

(a) a step of preparing a used process cartridge which comprises a toner developing container, a cleaning container and pins for coupling [said] the toner developing container and [said] the cleaning container at opposite longitudinal ends of [said] the process cartridge;

[said] the toner developing container including a toner accommodating portion, a toner supply opening, a developing roller and a developing blade;

[said] the cleaning container including an electrophotographic photosensitive drum;

(b) a container separating step of separating [said] the process cartridge into [said] the toner developing container and [said] [developing] the cleaning container by disengaging [said] the pins from [said] the process cartridge;

(c) a developing roller dismounting step of dismounting [said] the developing roller from [said] the toner developing container separated by said container separating step;

(d) a developing blade dismounting step of dismounting [said] the developing blade from [said] the toner developing container separated by said container separating step;

(e) an elastic member mounting step of mounting an elastic member [to a] at a position spaced from the toner accommodating portion to a longitudinally inside portion of an end seal provided adjacent each of opposite longitudinal ends of [a or said] the developing roller dismounted in said developing roller dismounting step or another developing roller [, at a position laterally outside of said end seal];

(f) a developing blade mounting step of mounting [a or said] the developing blade dismounted in said developing blade dismounting step or another developing blade on [a or said]

the toner [developer] developing container separated in said container separating step or another toner developing container;

(g) a developing roller mounting step of mounting [a or said] the developing roller dismounted in developing roller dismounting step or another developing roller on [said] the toner [developer] developing container having [said] the developing blade mounted in said developing blade mounting step and separated in said container separating step or the another toner developing container having the developing blade mounted in said developing blade mounting step;

(h) a toner refilling step of refilling the toner into [a or said] the toner accommodating portion of [said] the toner developing container having [said] the developing blade mounted in said developing blade mounting step and [said] the developing roller mounted in said developing roller mounting step and being separated in said container separating step or a toner accommodating portion of the another toner developing container having the developing blade mounted in said developing blade mounting step and the developing roller mounted in said developing roller mounting step; and

(i) a container coupling step of coupling [said] the toner developing container having [said] the developing blade mounted in said developing blade mounting step and [said] the developing roller mounted in said developing roller mounting step and being separated in said container separating step or the another toner developing container having the developing blade mounted in said developing blade mounting step and the developing roller mounted in said developing roller mounting step with [a or said] the cleaning container separated in said container separating step or another cleaning container by engaging [a or said] the [pin] pins disengaged in said container separating step or other pins into them.

2. (Amended) A method according to Claim 1, further comprising a flexible sheet mounting step of mounting after said elastic member mounting step and, [after said cut-away portion sealing step and] before said toner refilling step, a flexible sheet to [said] the toner developing container separated in said container separating step or the another toner developing container so as to extend along the longitudinal direction of [said] the developing roller when [said] the developing roller is mounted to [said] the toner developing container separated in said container separating step or the another toner developing container.

3. (Amended) A method according to Claim 2, wherein in said flexible sheet mounting step, each of longitudinal ends of [said] the flexible sheet extends over a surface of [said] the elastic member and a part of [said] the end seal.

4. (Amended) A method according to Claim 2 or 3, further comprising a first and second side seal mounting step of mounting, after said flexible sheet mounting step, a first side seal continuously on a longitudinal end of [said] the flexible sheet mounted on [said] the toner developing container separated in said container separating step or the another toner developing container and [said] the toner developing container separated in said container separating step or the another toner developing container, and a second side seal continuously on the other longitudinal end of [said] the flexible sheet mounted on the toner developing container separated in said container separating step or the another toner developing container and [said] the toner developing container separated in said container separating step or the another toner developing container.

5. (Amended) A remanufacturing method of [remanufacturing] remanufacturing a process cartridge comprising:

(a) a step of preparing a used process cartridge which comprises a toner developing container, a cleaning container and pins for coupling [said] the toner developing container and [said] the cleaning container at opposite longitudinal ends of [said] the process cartridge;

[said] the toner developing container including a toner accommodating portion, a toner supply opening, a developing roller and a developing blade;

[said] the cleaning container including an electrophotographic photosensitive drum;

(b) a container separating step of separating [said] the process cartridge into [said] the toner developing container and [said developing] the cleaning container by disengaging [said] the pins from [said] the process cartridge;

(c) a developing roller dismounting step of dismounting [said] the developing roller from [said] the toner developing container separated by said container separating step;

(d) a developing blade dismounting step of dismounting [said] the developing blade from [said] the toner developing container separated by said container separating step;

(e) an elastic member mounting step of mounting an elastic member [to a] at a position spaced from the toner accommodating portion to a longitudinally inside portion of an end seal provided adjacent each of opposite longitudinal ends of [a or said] the developing roller dismounted in said developing roller dismounting step or another developing roller [, at a position laterally outside of said end seal];

(f) a flexible sheet mounting step of mounting a flexible sheet to [a or said] the toner developing container separated in said container separating step or another toner developing container so as to extend along the longitudinal direction of [said] the developing roller on which

the elastic member is mounted in said elastic member mounting step when [said] the developing roller on which the elastic member is mounted in said elastic member mounting step is mounted to [said] the toner developing container separated in said container separating step to which the flexible sheet is mounted in said flexible sheet mounting step or to the another toner developing container to which the flexible sheet is mounted in said flexible sheet mounting step;

(g) a first and second side seal mounting step of mounting a first side seal continuously on a longitudinal end of [said] the flexible sheet mounted on [said] the toner developing container having the flexible sheet mounted in said flexible sheet mounting step and separated in said container separating step or the another toner developing container having the flexible sheet mounted in said flexible sheet mounting step and [said] the toner developing container having the flexible sheet mounted in said flexible sheet mounting step and being separated in said container separating step or the another toner developing container having the flexible sheet mounted in said flexible sheet mounting step, and mounting a second side seal continuously on the other longitudinal end of [said] the flexible sheet mounted on the toner developing container having the flexible sheet mounted in said flexible sheet mounting step and separated in said container separating step or the another toner developing container having the flexible sheet mounted in said flexible sheet mounting step and [said] the toner developing container having flexible sheet mounted in said flexible sheet mounting step and separated in said container separating step or the another toner developing container having the flexible sheet mounted in said flexible sheet mounting step;

(h) a developing blade mounting step of mounting [a or said] the developing blade dismounted in said developing blade dismounting step or another developing blade on [said] the toner [developer] developing container having the flexible sheet mounted in said flexible sheet

mounting step and separated in said container separating step or the another toner developing container having the flexible sheet mounted in said flexible sheet mounting step;

(i) a developing roller mounting step of mounting [a or said] the developing roller dismounted in said developing roller dismounting step or another developing roller on [said] the toner [developer] developing container having the flexible sheet mounted in said flexible sheet mounting step and separated in said container separating step or the another toner developing container having the flexible sheet mounted in said flexible sheet mounting step;

(j) a toner refilling step of refilling the toner into [a or said] the toner accommodating portion of [said] the toner developing container having [said] the flexible sheet mounted in said flexible sheet mounting step and separated in said container separating step or a toner accommodating portion of the another toner developing container having the flexible sheet mounted in said flexible sheet mounting step ; and

(k) a container coupling step of coupling [said] the toner developing container having [said] the flexible sheet mounted in said flexible sheet mounting step and separated in said container separating step or the another toner developing container having the flexible sheet mounted in said flexible sheet mounting step with [a or said] the cleaning container separated in said container separating step or another cleaning container by engaging [a or said] the [pin] pins disengaged in said container separating step or other pins into them.

6. (Amended) A method according to Claim 1 or 5, wherein [said] the elastic member is mounted on a side of [said] the end seal.

7. (Amended) A method according to any one of Claims 1 to 3 and 5, wherein [said] the seal is made of a plastically deformable material.

8. (Amended) A method according to any one of Claims 1 to 3 and 5, wherein said toner refilling step is carried out through a toner filling opening after said elastic member mounting step, said developing blade mounting step, and said developing roller mounting step.

10. (Amended) A method according to any one of Claims 1 to 3 and 5, wherein in said developing roller mounting step, a new or used developing roller is mounted.

11. (Amended) A method according to any one of Claims 1 to 3 and 5, wherein prior to said container coupling [process] step, [said] the electrophotographic photosensitive drum and [said] a cleaning blade are dismounted from [said] [cleaner] the cleaning container, and toner which has been removed from [said] the electrophotographic photosensitive drum and accommodated in [said] [cleaner] the cleaning container, is removed.

12. (Amended) A method according to Claim 11, wherein after the toner is removed, a new or used [electrophoto-graphic] electrophotographic photosensitive drum and a new or used cleaning blade are mounted.

13. (Amended) A method according to any one of Claims 1 to 3 and 5, wherein said remanufacturing method is implemented [with] by pulling out a toner seal, for sealing a toner supply opening provided to supply the toner accommodated in [said] the toner accommodating

portion to [said] the developing roller, [having been pulled out] to supply toner accommodated in [said] the toner accommodating portion to [said] the developing roller.

14. (Amended) A remanufacturing method of [remanufacturing] remanufacturing a process cartridge comprising:

(a) a step of preparing a used process cartridge which comprises a toner developing container, a cleaning container and pins for coupling [said] the toner developing container and [said] the cleaning container at opposite longitudinal ends of [said] the process cartridge;

[said] the toner developing container including a toner accommodating portion, a toner supply opening, a developing roller, and a developing blade;

[said] the cleaning container including an electrophotographic photosensitive drum;

(b) a container separating step of separating [said] the process cartridge into [said] the toner developing container and [said] the [developing] cleaning container by disengaging [said] the pins from [said] the process cartridge;

(c) a developing roller dismounting step of dismounting [said] the developing roller from [said] the toner developing container separated by said container separating step;

(d) a developing blade dismounting step of dismounting [said] the developing blade from [said] the toner developing container separated by said container separating step;

(e) an elastic member mounting step of mounting an elastic member [to a] at a position spaced from the toner accommodating portion to a longitudinally inside portion of an end seal provided adjacent each of opposite longitudinal ends of [a or said] the developing roller dismounted in said developing roller dismounting step or another developing roller [, at a position laterally outside of said end seal];

(f) a toner refilling step of refilling the toner into the toner accommodating portion of the toner developing container having the elastic member mounted in said elastic member mounting step and being separated in said container separating step or a toner accommodating portion of the another toner developing container having the elastic member mounted in said elastic member mounting step and through the toner supply opening of the toner developing container having the elastic member mounted in said elastic member mounting step and being separated in said container separating step or through a toner supply opening of the another toner developing container having the elastic member mounted in said elastic member mounting step;

[(f)] (g) a developing blade mounting step of mounting [a or said] the developing blade dismantled in said developing blade dismantling step or another developing blade on [a or said] the [developer] toner developing container separated in said container separating step or another toner developing container;

[(g)] (h) a developing roller mounting step of mounting [a or said] the developing roller dismantled in said developing roller dismantling step or another developing roller on [said] the toner [developer] developing container having [said] the developing blade mounted in said developing blade mounting step and separated in said container separating step or the another toner developing container on which the developing blade is mounted in said developing blade mounting step;

[(h)] a toner refilling step of refilling the toner into a or said toner accommodating portion of said toner developing container having said developing blade and said developing roller, through the toner supply opening of said toner developing container having said seal;] and

(i) a container coupling step of coupling [said] the toner developing container having [said] the developing blade mounted in said developing blade mounting step and [said] the

developing roller mounted in said developing roller mounting step and being separated in said container separating step or the another toner developing container having the developing blade mounted in said developing blade mounting step and the developing roller mounted in said developing roller mounting step with [a or said] the cleaning container separated in said container separating step or another cleaning container by engaging [a or said] the [pin] pins disengaged in said container separating step or other pins into them.

15. (Amended) A method according to Claim 14, further comprising a flexible sheet mounting step of mounting, after said elastic member mounting step and [, after said cut-away portion sealing step and] before said toner refilling step, a flexible sheet to [said] the toner developing container separated in said container separating step or the another toner developing container so as to extend along the longitudinal direction of [said] the developing roller when [said] the developing roller is mounted to [said] the toner developing container separated in said container separating step or the another toner developing container.

16. (Amended) A method according to Claim 15, wherein in said flexible sheet mounting step, each of longitudinal ends of [said] the flexible sheet extends over a surface of [said] the elastic member and a part of [said] the end seal.

17. (Amended) A method according to Claim 15 or 16, further comprising a first and second side seal mounting step of mounting, after said flexible sheet mounting step, a first side seal continuously on a longitudinal end of [said] the flexible sheet mounted on [said] the toner developing container separated in said container separating step or the another toner developing

container and [said] the toner developing container separated in said container separating step or the another toner developing container, and a second side seal continuously on the other longitudinal end of [said] the flexible sheet mounted on the toner developing container separated in said container separating step or the another toner developing container and [said] the toner developing container separated in said container separating step or the another toner developing container.

18. (Amended) A remanufacturing method of [remanufacturing] remanufacturing a process cartridge comprising:

(a) a step of preparing a used process cartridge which comprises a toner developing container, a cleaning container and pins for coupling [said] the toner developing container and [said] the cleaning container at opposite longitudinal ends of [said] the process cartridge;

[said] the toner developing container including a toner accommodating portion, a toner supply opening, a developing roller, and a developing blade;

[said] the cleaning container including an electrophotographic photosensitive drum;

(b) a container separating step of separating [said] the process cartridge into [said] the toner developing container and [said developing] the cleaning container by disengaging [said] the pins from [said] the process cartridge;

(c) a developing roller dismounting step of dismounting [said] the developing roller from [said] the toner developing container separated by said container separating step;

(d) a developing blade dismounting step of dismounting [said] the developing blade from [said] the toner developing container separated by said container separating step;

(e) an elastic member mounting step of mounting an elastic member [to a] at a position spaced from the toner accommodating portion to a longitudinally inside portion of an end seal provided adjacent each of opposite longitudinal ends of [a or said] the developing roller dismantled in said developing roller dismantling step or another developing roller [, at a position laterally outside of said end seal];

(f) a flexible sheet mounting step of mounting a flexible sheet to [a or said] the toner developing container separated in said container separating step or another toner developing container so as to extend along the longitudinal direction of [said] the developing roller on which the elastic member is mounted in said elastic member mounting step when [said] the developing roller on which the elastic member is mounted in said elastic member mounting step is mounted to [said] the toner developing container to which the flexible sheet is mounted in said flexible sheet mounting step and which was separated in said container separating step or to the another toner developing container to which the flexible sheet is mounted in said flexible sheet mounting step;

(g) a first and second side seal mounting step of mounting a first side seal continuously on a longitudinal end of [said] the flexible sheet mounted on [said] the toner developing container having [said] the flexible sheet and separated in said container separating step or mounted on the another toner developing container in said flexible sheet mounting step and [said] the toner developing container having [said] the flexible sheet mounted in said flexible sheet mounting step and separated in said container separating step or the another toner developing container having the flexible sheet mounted in said flexible sheet mounting step, and a second side seal continuously on the other longitudinal end of [said] the flexible sheet mounted on the toner developing container having the flexible sheet and separated in said container

separating step or mounted on the another toner developing container having the flexible sheet mounted in said flexible sheet mounting step and [said] the toner developing container having [said] the flexible sheet mounted in said flexible sheet mounting step and separated in said container separating step or the another toner developing container having the flexible sheet mounted in said flexible sheet mounting step;

(h) a toner refilling step of refilling the toner into the toner accommodating portion of the toner developing container having the flexible sheet mounted in said flexible sheet mounting step and being separated in said container separating step or a toner accommodating portion of the another toner developing container having the flexible sheet mounted in said flexible sheet mounting step, through the toner supply opening of the toner developing container having the flexible sheet mounted in said flexible sheet mounting step and being separated in said container separating step or through a toner supply opening of the another toner developing container having the flexible sheet mounted in said flexible sheet mounting step;

[(h)] (i) a developing blade mounting step of mounting [a or said] the developing blade dismounted in said developing blade dismounting step or another developing blade on [said] the toner [developer] developing container having the flexible sheet mounted in said flexible sheet mounting step and separated in said container separating step or the another toner developing container having the flexible sheet mounted in said flexible sheet mounting step;

[(i)] (j) a developing roller mounting step of mounting [a or said] the developing roller dismounted in said developing roller dismounting step or another developing roller on [said] the toner [developer] developing container having [said] the flexible sheet mounted in said flexible sheet mounting step and separated in said container separating step or the another toner developing container having the flexible sheet mounted in said flexible sheet mounting step;

[(j) a toner refilling step of refilling the toner into a or said toner accommodating portion of said toner developing container having said flexible sheet, said developing blade and said developing roller, through the toner supply opening of said toner developing container having said flexible sheet;] and

(k) a container coupling step of coupling [said] the toner developing container having [said] the flexible sheet mounted in said flexible sheet mounting step, [said] the developing blade mounted in said developing blade mounting step and [said] the developing roller mounted in said developing roller mounting step and being separated in said container separating step or the another toner developing container having the flexible sheet mounted in said flexible sheet mounting step, the developing blade mounted in said developing blade mounting step and the developing roller mounted in said developing roller mounting step with [a or said] the cleaning container separated in said container separating step or another cleaning container by engaging [a or said] the [pin] pins disengaged in said container separating step or other pins into them.

19. (Amended) A method according to Claim 14 or 18, wherein [said] the elastic member is mounted on a side of [said] the end seal.

20. (Amended) A method according to any one of Claims 14 to 18, wherein [said] the seal is made of a plastically deformable material.

22. (Amended) A method according to any one of Claims 14 to 18, wherein in said developing roller mounting step, a new or used developing roller is mounted.

23. (Amended) A method according to any one of Claims 14 to 18, wherein prior to said container coupling [process] step, [said] the electrophotographic photosensitive drum and [said] a cleaning blade are dismounted from [said cleaner] the cleaning container, and toner which has been removed from [said] the electrophotographic photosensitive drum and accommodated in [said cleaner] the cleaning container, is removed.

24. (Amended) A method according to Claim 23, wherein after the toner is removed, a new or used [electrophoto-graphic] electrophotographic photosensitive drum and a new or used cleaning blade are mounted.

25. (Amended) A method according to any one of Claims 14 to 18, wherein said remanufacturing method is implemented [with] by pulling out a toner seal, for sealing a toner supply opening provided to supply the toner accommodated in [said] the toner accommodating portion to [said] the developing roller, [having been pulled out] to supply toner accommodated in [said] the toner accommodating portion to [said] the developing roller.

26. (Amended) A method according to any one of Claims 1, 5, 14 and 18, wherein [said] the process cartridge comprises a gear fixed co-axially with [said] the electrophotographic photosensitive drum and a gear fixed co-axially with [said] the developing roller, which gears are in meshing engagement, and wherein after said container coupling [process] step, [said] the toner developing container separated in said container separating step or the another toner developing container and [said cleaner] the cleaning container are rotated about [said] one of the [pin] pins to disengage [said] the gears from each other or to make a back clearance of the meshing

engagement larger than that during an image forming operation, and wherein the disengagement or larger back clearance is maintained.

27. (Amended) A method according to Claim 26, wherein [said] the toner developing container separated in said container separating step or the another toner developing container and [said cleaner] the cleaning container are rotated toward each other about [said] one of the [pin] pins at a portion across [said pin] from [said] the electrophotographic photosensitive drum, and a tape is stuck on [said] the toner developing container separated in said container separating step or the another toner developing container and [said cleaner] the cleaning container to maintain the disengagement or the larger back clearance.